#6318 Store at -20°C

SignalSilence® TAK1 siRNA II

☑ 10 µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not For Use In Diagnostic Procedures.

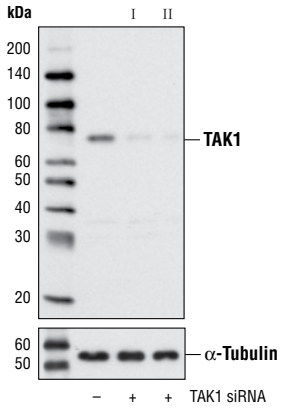
Species Cross-Reactivity: H

Description: SignalSilence® TAK1 siRNA II from Cell Signaling Technology (CST) allows the researcher to specifically inhibit TAK1 expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

Background: TAK1 is a mitogen-activated protein kinase kinase kinase that can be activated by TGF-β, bone morphogenetic protein and other cytokines including IL-1 (1,2). *In vivo* activation of TAK1 requires association with TAK1 binding protein 1 (TAB1), which triggers phosphorylation of TAK1 (3,4). Another adaptor protein, TAB2, links TAK1 with TRAF6 and mediates TAK1 activation upon IL-1 stimulation (5). Once activated, TAK1 phosphorylates MAPK kinases MKK4 and MKK3/6, which activate p38 MAPK and JNK, respectively. In addition, TAK1 activates the NF-κB pathway by interacting with TRAF6 and phosphorylating the NF-κB inducing kinase (NIK) (2).

Directions for Use: CST recommends transfection with 100 nM TAK1 siRNA II 48 to 72 hours prior to cell lysis. For transfection procedure, follow protocol provided by the transfection reagent manufacturer. Please feel free to contact CST with any questions on use.

Quality Control: Oligonucleotide synthesis is monitored base by base through trityl analysis to ensure appropriate coupling efficiency. The oligo is subsequently purified by affinity-solid phase extraction. The annealed RNA duplex is further analyzed by mass spectrometry to verify the exact composition of the duplex. Each lot is compared to the previous lot by mass spectrometry to ensure maximum lot-to-lot consistency.



Western blot analysis of extracts from 293 cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® TAK1 siRNA I #6317 (+) or SignalSilence® TAK1 siRNA II (+), using TAK1 Antibody #4505 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The TAK1 Antibody confirms silencing of TAK1 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #6885
Swiss-Prot Acc. #043318

Storage: TAK1 siRNA II is supplied in RNAse-free water. *Aliquot and store at -20°C.*

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

(1) Yamaguchi, K. et al. (1995) *Science* 270, 2008-2011.

(2) Ninomiya-Tsuji, J. et al. (1999) *Nature* 398, 252-256.

(3) Shibuya, H. et al. (1996) *Science* 272, 1179-1182.

(4) Sakurai, H. et al. (2000) *FEBS Lett.* 474, 141-145.

(5) Takaesu, G. et al. (2000) *Mol. Cell* 4, 649-658.